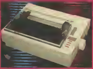
CU

AMIGA

HERE IT IS –
THE COMPLETE GUIDE TO YOUR AMIGA

INDISPENSABLE HINTS 'N' TIPS FOR ALL NEW OWNERS



WHAT TO DO IN AN EMERGENCY • YOUR PRINTER PROBLEMS SOLVED • HOW TO GET THE BEST FROM YOUR AMIGA • WORKBENCH 2.0 – WHERE TO BEGIN • GAMES – WHAT TO BUY AND WHERE TO BUY THEM • BEGIN TO LEARN PROGRAMMING

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THE COMPLETE GUIDE TO YOUR AMIGA

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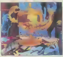

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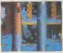

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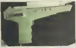

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EVERY MONTH... CU Amiga takes a look at all the new games hardware devices and productivity packages in an entertaining, authoritative and comprehensive manner We guide you through each package and tell you how to use it in easy-to follow guides CU Amiga is like two magazines for the price of one Reserve a copy at your local newsagent or turn to page 48 of the main magazine to find out more about our amazing subscription offer Don't delay if you want to get the best out of your Amiga!

Welcome to CU Amiga's third free supplement. This one's for all of the 60,000 people who've just had the good sense and taste to become owners of the best home computer around. Inside you'll find vital information, ranging from what to do if your keyboard doesn't work to choosing the right game. Read and enjoy. . .

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IN A FIX?

Printer won't output, monitor on the blink, joystick won't respond? Don't worry, for here is your guide to a problem-free life...

PRINTER PROBLEMS

- This may sound obvious but having an unconnected printer is a common mistake Check over the wires that run from your Amiga to the printer and the plug Don't forget to switch off your computer and switch off at the mains if do have to reconnect the leads

- Having problems with you printer driver? Copy across the correct driver to the Workbench disk, and then select it from Preferences

- It you're print outs are of poor or inconsistent quality, the first thing to check is that the ribbon s still on the printer head

- Daisy wheel printers *can* print graphics as well as text, but it s a massively intricate process Exchange your printer if you take art seriously

POOR PICTURE

- Remember to set the TV to the correct channel

- If your screen goes red or green this may be because the monitor lead is loose, or because the modulator switch is in the wrong position

- A shaky picture often means that the Amiga is working in Interface mode This simply means that it s trying to get more on screen This can be corrected with a device called a flicker fixer

WON'T LOAD

- The causes can be many, ranging from software failure a virus to problems with the drive Check through everything reset and start again If it still doesn't work send the disk back Oh, and by the way always virus check your disks (it s worth spending a few quid on a decent program – most Public Domain houses stock them)

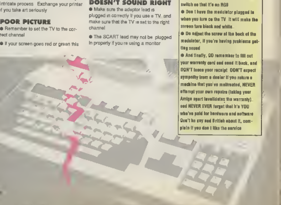
DOESN'T SOUND RIGHT

- Make sure the adaptor lead is plugged in correctly if you use a TV and make sure that the TV is set to the right channel

- The SCART lead may not be plugged in properly if you re using a monitor

DOS AND DON'TS...

- Don't plug the audio lead to the wrong output, if you use a modulator
- Don't take a disk out of the drive while the drive light is on
- Do learn to do what's known as a 'soft reset' Simultaneously pressing the two Amiga keys, the two shift keys and the control key will bring you back to the Workbench screen
- Do ensure that nothing is plugged in when you switch on the power
- Don't forget to wire the plug correctly
- Do remember to set the DIP switches and use the correct driver when printing
- Do read the instruction manual that comes with your monitor Set the CVBS switch so that it's on RGB
- Don't have the modulator plugged in when you turn on the TV It will make the screen turn black and white
- Do adjust the screw at the back of the modulator, if you're having problems getting sound
- And finally, DO remember to fill out your warranty card and send it back, and DON'T loose your receipt DON'T expect sympathy from a dealer if you return a machine that you've maltreated, NEVER attempt your own repairs (taking your Amiga apart invalidates the warranty) and NEVER EVER forget that it's YOU who've paid for hardware and software Don't be coy and British about it, complain if you don't like the service



...HERE'S THE SOLUTION

Each month CU Amiga offers its readers unparalleled advice, hints and tips on hardware add-ons, programming, sound, graphics, productivity software, as well as the best games coverage in the industry. Be it via our Questions and Answers service, in a review, or in an in-depth tutorial, you'll always find something that makes computing a more fascinating – and approachable– hobby.

There are a limited number of back issues available – so if you want to catch up with the rest just ring our Back Issues Teleservice on 0858 410510.

JUNE ISSUE
DPaint 4 CLI tricks with type print your own T-shirt printers head-to-head virus-killing hardware Intersound Interword and Interspread

Games: Beast Busters R Type2 Search for the King Cohort, Metal Mutant Navy Seals Das Boot Trial By Fire MegaTraveller Warzone Tips Eye of the Beholder Bard's Tale 3

Disk one Gravity (full-price game from Mirrorsoft) Disk two Warzone playable demo Caverunner (game) Protracker sequencing package utility boot installer poster fonts CLI utilities.

PLUS FREE 24-page supplement: How to do-it-all on the Amiga

JULY ISSUE
Audio special TFMX2 Vista Pro landscape generator How it Works – Disks Gravis Mousestick, digitisers head-to-head education round up colour cycling explained

Games Pro Flight PP Hammer RBI Baseball 2 Life and Death Frenetic Prehistorik, Manchester United Germ crazy Hero's Quest, Crime Does Not Pay Champions of the Raj Tips MegaTraveller Hill Street Blues

Disk one Zombi (full-price game from Ubisoft) Manchester United demo the best of Technosound

Disk two Technosound Turbo PP Hammer playable demo Brush 4D House inventory program colour cycling slideshow chip checker

AUGUST SOLD OUT
Get rich q[illegible] your Amiga, create your own logos scanners head-to-head Workbench Management System Video One Protracker 2

Games Thunderhawk Cardinal of the Kremlin Battlechess 2 Sliders Swap King's Quest 5 Elf Moonbase Armalyte Lords of Chaos Thunderjaws Bill and Ted's Excellent Adventure Hunter Maupiti Island Wild Wheels Tips Gods, Hero Quest

Disk. Armalyte (playable demo) MM Ping Pong Star Trek Trivia (games) head cleaner virus X Tune of the Month Screen of the Month PPMore PP Anim Show Image Formatter Calckey Fredisk Memclear Keymacro Amos Music Cycler 48 point font

SEPTEMBER SOLD OUT
How to ch[illegible]mation word processors head-to-head beginner's guide to DPaint 4 Comms round up sampling explained Genius Graphics Tablet, Fujitsi DL900

Games Utopia Robin Hood Redland Jimmy White's Snooker Magic Pockets The Simpsons Nebulus 2 Alien Storm Cruise for a Corpse Head over Heels Blade Warrior Final Fight Executioner Gauntlet 3 Mega Lo Mania. Tips Eye of the Beholder Life and Death.

Disk Amos 3D demo Trix Dad and Gravity Wars (games) Bartman animation Bootblock Champion 3 2 1 Tune of the Month Pointer animator Kill Da Virus 3

OCTOBER ISSUE
How to shade pictures, design your own hardware samplers head to-head joystick round up, computer graphology successful DTP Saint's Sequencer education round-up

Games. Lotus 2 Midwinter 2, Lord of the Rings Rolling Ronny Flight of the Intruder Silent Service 2 Alien Breed Death Knights of Krynn, Last Ninja 3 Amnios Barbarian 2 Moonstone Sarakon Monopoly Tips Mega Lo Mania and bumper tips round up

Disk one RSI Demo Maker (complete program) Moonstone (playable demo) Superecho Audio Digitiser Timeset utility

Disk two Lotus 2 (playable demo) Trippen and Power Pong (games) Tune of the Month Screen of the Month Canon BJ10e printer driver

FREE SUPPLEMENT! 24-page Essential Guide to Public Domain

NOVEMBER ISSUE
Games construction kit round-up fine art on the Amiga, genlocks head to-head 24-bit colour Amos 3D Joystick testing How-it-works – Lightguns, MED tutorial Virus Guide

Games Heimdall Terminator 2 Leander Supaplex, Altered Destiny Robocod Grand Prix Hudson Hawk Boston Bomb Club Pit Fighter The Blues Brothers Stratego Monster Business Tips King's Quest V Flight of the Intruder

Disk one Fuzzball (playable demo) H-Ball and China Challenge (games) tune of the month DPaint slideshow Nuclear war sim

Disk two Culculous (game) DLock protection kit anti-click device screen of the month

DECEMBER ISSUE
Graphics extravaganza. Animated movies, make your own Christmas cards how to become a games designer plus hard drives head-to-head what works on Workbench 2? sound enhancers, clip art round-up typing class

Games Birds of Prey Robocop 3 Ultima VI Epic Knights of the Sky Battle Isle Microprose Golf Devious Design Rugby The World Cup Vs Audiogenic Rugby 4D Boxing First Samurai Populous 2 Sim Flight 2 Smash TV Hagar the Horrible Double Dragon 3 Super Space Invaders Pegasus Mega Twins Suspicious Cargo Fate Seven Colours Cisco Heat Shadow Sorcerer Super Fulcrum Final Blow Volfied Hard Nova Captain Planet.

Disk one: An instant collection of 21 games all of which are guaranteed to work on the all-new Amiga 500P!!

Disk two Text Plus 2.2E A fully-featured word processor Christmas Clip Art, video and audio cassette label-making program FastDisk 2 disk space organiser picture of the month and tune of the month

IT'S SIMPLY THE BEST

Perhaps the most versatile micro ever made, the Commodore Amiga is supreme in all fields of personal computing. If you're tired of simply saving Lemmings, Rik Haynes suggests some of the other options available...

Welcome to the machine of opportunity The possibilities of the Amiga really are limited only by your imagination Within seconds you could be playing a game creating stunning animated sequences or static art composing some music writing a letter running a small business producing your own fanzine the list of options is almost endless Everybody has the chance to get the best out of their Amiga All that's needed to tap this huge potential for productivity and playtime is the right accessories A little bit of practice can also help of course! Luckily hardware and software for the Amiga is readily available throughout the UK and the rest of the world If you can be bothered it's even possible to buy the latest gear in the bustling back streets of Bangkok

Over three million Amigas have been sold since the impressive introduction of this ground-breaking home computer back in 1985 when maverick artist Andy Warhol produced a portrait of sultry singer Debbie Harry on the Amiga using a prototype of EA's *DeluxePaint* art program at the Summer Consumer Electronics Show in Chicago As the sales personnel were keen to stress at the time Only the Amiga makes it possible

Surprising then, that the Amiga was originally intended to be the ultimate video games console but a series of events quickly changed that perception After legendary chip designer Jay Miner and the rest of the engineering group at Los Gatos in California had finished the whole project had blossomed into the ultimate personal computer They'd even devised one of the strangest peripherals yet seen The Joyboard was a joystick operated in a similar fashion to going surfing or skateboarding

IMPROVED

Instead of sitting on its backside Commodore has continually expanded and enhanced the Amiga family of microcomputers Today you have the choice of buying an entry level A500 with *Bart Simpson* game and *DeluxePaint* graphics package (£400) a more up-market version like the A1500 (£1000) or the new CDTV multimedia

machine (£500). This latter option fuses the flexible visual technologies of the Amiga with the outstanding sound and storage capabilities of Compact Disc.

The recent decision to supply the standard A500 with one megabyte of memory has been greeted with glee by the thousands of programmers out there in coding land. These dedicated digital developers are always trying to push the boundaries of what's possible on your favourite slab of silicon. Many future games and utilities simply won't work on an Amiga with less than one megabyte of RAM. Don't say you weren't warned!

Now it seems we could be seeing a slightly cut-down version of the Amiga, with an extremely attractive price of below £200, sometime next year. Where will it all end, eh?

The range of add-ons and peripherals for the Amiga is vast. Extra memory, fractal generators, graphics packages, light pens, light guns, extra drives, cabinets, synthesisers, video-packages and digitisers are just some of the equipment that's readily available

DO IT YOURSELF If you're still not satisfied with the range of software available on the Amiga, why not program your own? It's easier than you think, especially with something like Europress Software's award-winning *AMOS* (£50) program. *AMOS* has quickly established itself as the leading programming language for the Amiga before attempting the hassle of machine code. It lets people concentrate on the design of a game, utility or demo without worrying too much about how any fancy audio video effects like moving set-ended sprites and screen scrolling are actually achieved. You'll require a workable understanding of BASIC programming before you start on your first epic, though. If you think you can handle the Amiga without any aid from clever programmers, look no further than Action Replay II (£60) from Datel Electronics. With this cartridge, you're able to examine memory and hardware registers, edit programs and look for pictures, sprites and fonts. The novice is able to disassemble programs, make notes on what you find, generally mess around with the way they work and then discover the tricks of the trade

INVALUABLE

Once you've actually used an Amiga it's difficult to conceive of how you ever managed before the beast actually arrived. Little wonder then, that it's the darling of creative people on tight budgets. The resulting images and sounds, and sometimes the Amiga itself, can be seen in cheap movies and television shows including The Chart Show and Neighbours.

Possibly the most outlandish use of the Amiga so far has been by trendy DJs across Europe. Lasers effects are apparently no longer enough to satisfy the techno lusts of energetic nightclub ravers. Dancefloors, surrounded by expensive Sony monitors and fed by Amiga fractalvision, pump out visual noise in rhythm to the beat of hardcore grooves from the likes of The Prodigy, N-Joi and Bizarre Inc.

Most productivity applications and activities require a more meaty machine than the one sold in the Cartoon Classics bundle. The most likely upgrade route is taken by purchasing an extra floppy disk drive (approximately £50) or hard drive (around £250), decent monitor (from £300) and additional memory (around £50 per 512K of RAM). With such a system setup, you shouldn't have any problems waiting for your favourite program to strut its stuff. Commodore will shortly be launching an add on CD-ROM drive (£TBA) allowing you to try CDTV product on your Amiga.

MULTI-COLOURED DREAMBOAT

With a palette of over 4096 colours and multifarious display modes to have fun with, creating graphics is easily the most popular use for the Amiga. An incredible diversity of packages are available ranging from ordinary paint and animation programs to sophisticated video titling software and genlock hardware enabling you to overlay text and graphics over your own home videos.

DeluxePaint IV by Electronic Arts (£90) is easy to use, has everything you need to conjure up some gorgeous graphics and is, therefore, the most popular paint and animation product released on any micro. The *Disney Animation Studio* (£100) concentrates on the more traditional methods of animatics and cartooning. If you're after more life like images, take a look at some of the ray tracing titles out there such as *Sculpt 4D* (£250) and *Sculpt 4D Jr* (£80). Using some complicated calculating routines, the way rays of light bounce off objects can be mimicked, making them look far more realistic.

If the best sort of sprites and backdrops you can achieve still wouldn't look out of place in a kid's nursery, perhaps you should invest in a video digitiser of some sort? These handy gadgets can turn ordinary photographs or footage from video tape into a picture inside your Amiga. There is an almost bewildering array of such devices currently on sale. Digi View Gold (£150) from NewTek is highly recommended because of excellent results and its complete software control over such important aspects as brightness, sharpness, resolution and palette. Digi View Gold digitises in all the Amiga

➤

graphics modes from 320x256 up to 768x592 and uses 2 to 4096 colours including halftone mode Video Digitiser II (£90) by Datel Electronics can grab a frame of video in 1/50 second using 4 8 or 16 grey levels Rombo also produces an impressive widget, Vidi-Amiga (£180) which is widely regarded as the best video frame grabber for the price Images can be grabbed from either colour video camera or VCR decks with this one

TOASTING

All these grabbing gizmos have given rise to a lucrative spin off industry called Desktop Video NewTek has taken the whole concept to totally new heights with the Video Toaster If you've got £1300, two monitors and 5MB RAM to spare at the very least this powerful Amiga accessory produces digital video effects normally found in £50 000 TV studios These include advanced 3D animation software for things like flying logos and fog genlock frame grabber, character generator 16 8 million colours variable motion blur fast photo realistic rendering and jog shuttle control This baby is good enough for broadcast use and took over four years to develop

Such visual treats would be pretty limp without audio accompaniment right? No problemo Your Amiga excels at producing superb music and sound effects

Have you ever wondered where all these funny or familiar audio FX comes from in a good game? These real sounds are referred to as sampled because they were originally taken from a normal sound source connected to your Amiga with a sampling device It'a the computer equivalent of a cassette recorder except you can perform all sort of tricks like altering the tempo and adding reverb, on the sound once it has been sampled Unfortunately, these wonderful samples requires large amounts of memory so they have to be kept short Nearly everybody involved with the Amiga sells their own type of sampling hardware and software so you re absolutely spoilt for choice FutureSound 500 (£90) is expensive especially when considering the primitive software support, but produces crisp samples when used with a top notch editing program like *AudioMaster III* (£90) Microdeal offers the cheaper Master Sound (£40) complete with some nifty programs like a sequencer and musical keyboard emulator Finally, Mini Sampler (£25) from Datel Electronics and Evesham Micros' Stereo Sound Sampler (£30) can hardly be beaten in terms of price

OUT OF THIS WORLD *And now for something completely different.* ***Vista Pro*** **(£90) is a fractal generator able to recreate photorealistic landscapes with natural-looking mountains, coastlines and lakes for inclusion into your own pictures and programs With it, you're able to transfer fractal-generated graphics into *DeluxePaint* or save landscapes as 3D images and import them into a ray tracing package like *Sculpt 4D* This extraordinary program by Hypercube Engineering uses the computational formula invented by Professor Benoit Mandelbrot, a prominent mathematician at IBM in New York. Fractal graphics have so far been put to best use in military simulators and Pixar's spectacular planet genesis sequence for the Star Trek II: The Wrath of Khan movie Warning! *Vista Pro* requires about 3MB RAM to run properly Psygnosis make extensive use of fractals in the *Planetside* demo supplied 'free' with the CDTV**

INEXPENSIVE

Real bargains can be found in Public Domain libraries this is cheap software where the author forgoes the profits of publishing but may expect about £10 from you if the program is kept and used This will usually provide you with extra documentation and upgrades in the future Apart from the large selection of graphical demonstrations, primitive games and such like, there are many excellent PD utilities which enable you to combine sound samples into music compositions The most notable of these, *Noise Tracker* and *MED*, cost around £2 each and put most so-called professional programs to shame MED 3 0 In particular is a brilliant music composition package from Finland which can load at least 64 sounds samples into the memory at once and display music in traditional notation It also incorporates a sample editor and MIDI sequencer

Standing for Musical Instrument Digital Interface, MIDI is a very practical solution to controlling synthesizers, drum machines and other musical instruments using your Amiga By simply connecting a maximum of sixteen MIDI compatible instruments to a MIDI interface (£30) attached to the back of the Amiga you can run some special sequencing software to create any sort of music from the latest dance tracks to more classical works *Music X* (£100) is probably the most widely used sequencer on the Amiga With *Music X* you're able to turn your machine into full music studio For the beginner there is also a cut down version *Music X Jr* (£50) *Bars and Pipes* (£200) is easier to use than the *Music X* series and *Bars and Pipes Pro* (£250) includes such features as a mixing desk and the ability to display music notation There are plenty of MIDI applications available from any good PD supplier too Gemini

There are a huge number of joysticks on the market which range in price from about £5 to more than £100! Try as many different types to find the one that suits you

Shareware is one of the many PD stockists with editors utilities and sequencers for all the popular MIDI synths on the market. Don't worry if you're not another Mozart or Jean Michael Jarre Island Digital is selling a range of ready made 'Hands On' MIDI sequences (£20) for popular tracks like Michael Jackson's Bad and Hanky Panky by Madonna.

Alternatively, Mindscape is offering you a chance to play the piano without the hassle of formal lessons Already enthusiastically featured on the enduring BBC 1 show Tomorrow's World the Miracle (£300) is a complete system with full MIDI musical keyboard and easy to understand software which will teach you how to play the piano within a matter of hours Mindscape intends to further the Miracle by releasing 'Play Along' programs over the coming months

ANTI-LEMMINGS

On a fun note The Sickness Simulator from Strictly PD features noisy samples of a cough sneeze burp fart groan and so on Talking of PD you cannot really afford to miss the excellent work of artists Tobias Richter and Eric Schwartz The latter person is best known for his utterly fantastic *Anti-Lemmings Demo* Even the boss of Psygnosis was blown away by the immense quality shown by this American teenager Also from this talented and very humorous animator we have *A Night at the Movies Juggette II Space Shuttle* and *Stealth Fighter Walker* is another famous Amiga demo where a giant AT AT armoured vehicle from The Empire Strikes Back movie comes to life before your very eyes

More everyday mundane tasks like writing a letter teaching the kids how to recognise colours and shapes, or running a small business can benefit from an injection of Amiga magic

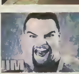
With any good Word Processor or Desktop Publishing package you can bring your words and graphics together to express yourself like never before - With *Pagestream 2 1* (£200), for example you can create anything from simple Christmas cards to sensational business brochures Here you see a representation of the page you're working on and you can move text and pictures around enter headlines and so forth *Professional Page 2* (£250) is the number one choice for serious Amiga publishers Meanwhile a package like Gensoft's *Proclips* (£25) is a diverse collection of clip art to enliven the pages designed with your favourite DTP package Arnor's *Protext 5 0* word processor is fine if you don't need the extra facilities provided by a Desktop Publishing program It has an in-built spell checker with over 110,000 words and supports many languages including Albanian, Czech, Dutch English French German Hungarian Italian, Latin Norwegian Polish Rumanian, Spanish and Welsh Don't forget you'll need to add a decent printer to see the results of your labours Prices start at around £120 to over £1200 depending on the print quality and time it takes to reproduce a page of text and/or graphics Like most things you get what you pay for – but the Star LC-20 (£200) and Seikosha Notebook (£430) are just two of the many workhorses available to you One thing to remember more exotic printers can be a real pain to connect to your Amiga. Make sure the correct 'Printer Driver' software is available for the one you choose Scanners are another useful peripheral for people into Desktop Publishing These gadgets like the Golden Image Scanner (£200) can transfer photographs and pages from books into your Amiga as a picture file Here you must watch out for a good dpi capability (Dots Per Inch) rating Most scanners have a range of 100 to 400 dpi The higher the number, the clearer the image that will be replicated

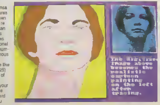
ALL MOD COMMS

Those with a hint of wanderlust might like to try a modem and to communicate with other Amiga users around the world via the telephone Mind you remember it's not one of the cheapest ways to make new friends Emulation is another way to expand your horizons beyond the frontiers of the Amiga The trouble is it's very hard to simulate another computer system and use the software available on that machine Very few therefore achieve any degree of success Perhaps the only ones that come close are AtOnce (£200) for IBM PC emulation and A Max (£170) which approximates the functions of an Apple Macintosh

Wow! We hope this brief overview of the opportunities out there has prompted you to rethink the way you could use your Amiga in the months to come There are just so many options freely available to you that it can quickly get very confusing and frustrating That's why CU AMIGA brings you the essential information you need to make the right purchasing decisions Whether you're a Pixel Picasso or MIDI Maestro there's always a range of new products under review and useful hints and tips to follow every month

The Amiga range is continually expanding Already we've got the A500, A500P A100 A1500, A2000 and the A3000 and the Amiga CDTV. In the pipeline is a cut-down version of the A500, tentatively titled the A300 which should be available at the knock-down price of £200 There's also a rumour of a new A4000 and we'll bring you more news as soon as we've got it.




The digitised image above becomes the realistic cartoon painting on the left after tracing.

If you've ever wondered what Workbench is all about, here's your chance to find out once and for all.

WORKBENCH WORKOUT

Mat Broomfield elucidates.

Though you may only use your Amiga for games, you're bound to encounter Workbench at one time or another, even if it's just to format a disk. However, there's a lot more on offer than that, especially now that the new 2.0 operating system has been released. As we take a detailed look, you'll soon discover that controlling your Amiga can actually be a simple and enjoyable past-time!

The first thing you'll need to do is load Workbench, so reset your computer and put the Workbench disk into the disk drive.

When it's loaded, you'll be presented with the main Workbench screen. This is blue if you're using a 1.3 Amiga or older, and grey if you're using a 2.0 machine such as the Amiga Plus (A500P).

ICON SEE YOU

At the side of the screen are two small disks, known as icons. The top one is labelled 'Ram Disk' and indicates an area of memory where you can temporarily store data. Any information stored in the Ram Disk is lost when the computer is turned off for more than thirty seconds.

The other icon is either named 'Workbench 1.3' or 'Workbench 2.0' and it represents the disk that you loaded the Workbench from.

You'll also notice that there's a small red arrow on the screen, which is called a pointer, and is moved around using the mouse.

If you move the pointer so that it's on top of the Workbench icon, then press the left mouse button twice quite quickly (double click), a box (known as a window) will open up containing lots more icons.

Although any picture can be used as an icon, it's what they do that matters, not what they look like.

There are five main types of icon and each represents a different sort of information.

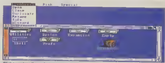
The first type is called a Disk Icon, and both the Workbench and Ram Disk icons fall into this category. Disk Icons are used to indicate logical devices such as floppy and hard disk drives and specially assigned areas of memory etc.

Whenever you double-click on a device icon, a window will open showing you the contents of that device.

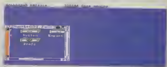
The second is called a Drawer or Directory Icon, and works in a similar way to the Disk icon. A directory is the computer equivalent of a folder in a filing cabinet. It doesn't actually tell you any information itself, it's just a receptacle which contains related files. Unlike a filing cabinet, the computer's also capable of storing folders within folders. A directory inside another directory is called a sub-directory and is considered to be the child of the directory it's in.

By double-clicking on a Directory Icon, a window is again opened to show you its contents.

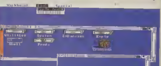
The next type is called a



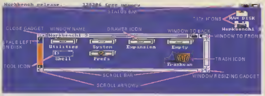
Click on an icon then select 'open' to activate it.



The scroll bar only occupies half of its box indicating that there's a lot more icons out of sight.



Files placed in the Trashcan will be destroyed once you select the 'Empty Trash' option.


Workbench release. 328286 free memory
STATUS BAR
DISK ICONS
RAM DISK
Workbench1.3
CLOSE GADGET
WINDOW NAME
DRAWER ICON
WINDOW TO BACK
WINDOW TO FRONT
SPACE LEFT ON DISK
Workbench1.3
Utilities
System
Expansion
Empty
Shell
Prefs
Trashcan
TRASH ICON
TOOL ICON
SCROLL BAR
WINDOW RESIZING GADGET
SCROLL ARROWS

Tool Icon, and it represents any program which can be loaded by double-clicking on it. Some programs can only be loaded from CLI, and although they may still have an icon, trying to load them will generate the error message "Unable to open tool xyz" (xyz is the name of the program).

The Project Icon is used for any saves that you might make, from a word processor or art package for instance. When you double-click on them, Project Icons will automatically attempt to load the program that they were created with, and then load into that program. For example, if you clicked on the Project Icon for a text file that was created using *Wordworth*, it would automatically load the word processor before loading your file into it.

The final icon type is called Trash, and is used for the Trashcan on your Workbench disk. It represents a directory that can't be moved into another drawer (unlike the previous three icon types).

A WINDOW ON THE WORLD

If you take a moment to look at the window containing the icons, you'll see that it has a number of characteristics as well. For starters, the window has a thick border around it which displays various types of information.

At the top of the window there's a name, Workbench1.3 or Workbench2.0 in this case. This indicates the name of the icon that was double-clicked to open the window in the first place.

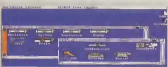
To the left of the name is a small square with a dot inside it. This is called a "Close Gadget" because if you move the pointer over it and click with the left mouse-button, it closes the current window.

To the right of the window name are two further gadgets connected with positioning and sizing of the window. These gadgets look and function differently on machines with 1.3 or 2.0 operating systems.

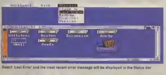
On a 1.3 Amiga, the gadgets look like two differently coloured over lapping rectangles. They both adjust the positioning of the window in relation to other windows which you may have opened. If you click the gadget with the dark rectangle to the front it pushes the current window behind any other windows that may be open. The gadget with the light rectangle to the front performs the opposite function.

On a 2.0 Amiga there's still one over lapping rectangle gadget, but the other one has been replaced with a picture of a white square inside a blue one.

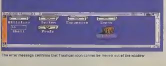
If you click on the over lap- ➤


Workbench release. 321824 free memory
RAM
Workbench
Utilities
System
Expansion
Empty
Shell
Prefs
Prefpointer
CopyPrefs
Printer
Serial

Double clicking on an icon either loads a program or opens a window


Workbench
Disk
Special
Clean Up
Last Error
Redraw
Snapshot
Version
Workbench1.3
Utilities
System
Expansion
Empty
Shell
Prefs

Select "Last Error" and the most recent error message will be displayed in the Status Bar



Trashcan cannot be moved out of its window

Workbench1.3
Utilities
System
Expansion
Empty
Shell
Prefs

The error message confirms that Trashcan icon cannot be moved out of the window

WORKBENCH WORKOUT

ping rectangles it either brings the window to the front or pushes it to the back of the screen according to its current status. If you click on the other gadget, the window is automatically reduced or enlarged so that you can either see other things on the screen or see more of the window you're working on.

Filling up the entire right hand side of the window is a box capped at each end with arrows. Sometimes when a window is open there are more icons than can be displayed at one time. Any icons which can't be displayed still has a position relative to the other icons they're simply out of sight. Consider the windows of your own house – just because much of the terrain outside is out of view doesn't mean that it ceases to exist!

By clicking on either of the arrows you can move the window's position relative to the various icons.

Between the two arrows there's a bar known as a Scroll Bar which can be used as a quicker way of moving the window around. If you click on the scroll bar with the left mouse-button and keep the button held down you can move the bar up and down within the box. The scroll bar itself represents the currently visible window and the box represents the total amount of information to be displayed. For example if the scroll bar half fills the box it means that the current window is equivalent to half of the total vertical area that the icons occupy.

Running horizontally along the bottom of the window you'll notice another set of arrows complete with scroll bar. These work in exactly the same way laterally as the vertical ones.

In the bottom right of the window there's a small gadget for resizing it. If you click the pointer on it keeping the button pressed you can increase or decrease the size of the window.

The final element of a window can be found along its left hand side where you'll notice a gauge with an 'F' at its top and an 'E' at its base. This is only found on windows which were opened as a result of clicking on a device icon because it shows how full or empty the current device is. In most cases this only refers to a disk but it can also be used to indicate spare memory.

2.0 users will notice that this is absent on their version of Workbench but if you look to the right of the window name, you'll see a more detailed description of the current device.

Now that we've briefly explored the anatomy of a window and the purpose of icons we'll move on to look at menus and how they work.

MENU SELECTIONS

Press the right mouse button and hold it. You'll notice that the top of the screen changes to display a number of words. These words indicate that one or more options relating to that heading can be found there. Still holding the button down move the pointer until it's on top of one of the words. The word should become highlighted (change colour) and a list of words should appear below it. These are the options that I mentioned. Without releasing the button slide the pointer down the list of options. As the pointer moves over them some may become highlighted themselves or still further options may appear to their side. Many of the options will appear to be written in faded letters and cannot be selected. This is called Ghosting and the computer does it to indicate that those options are not currently available.

If you wish to select an option simply move the pointer onto it so that it becomes highlighted then release the right-mouse-button.

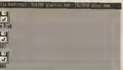
We're going to take a closer look at the different Workbench options now but because there are so many differences between 2.0 and 1.3/2 Amigas we'll examine each one in turn starting with the 1.3.

1.3 MENUS

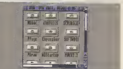
The 1.3 Workbench contains three menu headings Workbench Disk and Special.

The Workbench menu contains all of the options pertaining to individual files. Here's how they work.

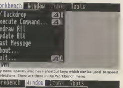
Open If you you select an icon (by clicking on it once)


Amiga Workbench 964304 graphics mem 1823048 other mem
Ram Disk
DH1
DH0

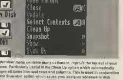
Workbench 2.0 places the icons on the opposite side of the screen to its predecessors but they function in the same way.


MUSIC
GRAPHICS
SCRIBBLE!
PPage
Expansion
SOFTWOOD
PDraw
WBStartup
MACV2.2

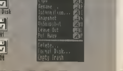
The background and windows can be filled with user-defined patterns under the new 2.0 operating system.

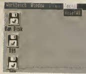

Workbench
Window
Icons
Tools
✓ Backdrop
Execute Command...
Redraw All
Update All
Last Message
About...
Quit...
DH1

Many menu options also have shortcut keys which can be used to speed up selections. There are three in the Workbench menu.

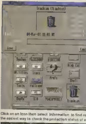

Workbench
Window
Icons
Tools
New Drawer
Open Parent
Close
Update
Select Contents
Clean Up
Snapshot
Show
View By
Ram Disk
DH1

The 'Window' menu contains many options to improve the lay out of your windows. Particularly useful is the Clean Up option which automatically arranges all icons into neat rows and columns. This is used in conjunction with the Snapshot option which saves your designer windows to disk.

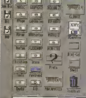

Workbench
Window
Icons
Tools
Open
Copy
Rename...
Information...
Snapshot
UnSnapshot
Leave Out
Put Away
Delete...
Format Disk...
Empty Trash
Ram Disk
DH1
DH0



Some software packages allow you to add additional options to the 'Tools' menu so that you don't need to double-click their icons to load them



Click on an icon then select Information to find out more about it. This is the easiest way to check the protection status of a file



Workbench 2.0 is far easier and more intuitive to use than earlier versions. Many of the tools utilise completely re-written commands which are based on the ARP library

MUSIC
GRAPHICS
SCRIBBLE
PPage
Expansion
SOFTWOOD
PDraw
WBStartup

and select Open it performs the same function as if you'd double-clicked the icon, ie it either opens another window or attempts to load a program.

Close Once a window has been opened it can be shut by selecting its icon then selecting close.

Duplicate Allows you to make a copy of a program or drawer. Select the icon of the item to be duplicated and select Duplicate from the menu. A file will be created called Copy of... whatever. Note if you want to make a duplicate of a program on a disk, as opposed to one in memory, the disk must be write-enabled.

Rename Select a file or drawer then choose rename to change its title.

Info As described earlier each icon has specific characteristics which can be shown by first selecting the icon then Info. Info also gives details about the protection status of a selected icon and allows you to make programs non-deleteable for instance.

Discard This option provides you with a quick way to permanently erase unwanted files etc. Select the item to be destroyed then choose the Discard option from the menu to kill it.

There are two options in the Disk menu Empty Trash and Initialize.

Empty Trash. If you wish to delete a lot of files it may be quite time consuming to use the Discard option for each one. If you double-click on the Trashcan icon a window will open which represents the inside of the can. By clicking on an icon and holding the button down you can drag unwanted files into this window, then when you're ready to delete them all select the Trashcan icon and choose Empty Trash to erase everything in one swoop.

Initialize This is just another word for format. When you buy a blank disk it is raw and unready for use on the Amiga. Before it can be used it must be converted into a special format which the Amiga can understand. By inserting the new disk, then selecting its icon and initialising it, the disk is transformed into something that the Amiga can read and write to.

The Special menu contains miscellaneous commands which among other things help you to keep the appearance of your Workbench screen tidy.

Clean Up When a window is first opened selecting Clean Up will cause all of its icons to be arranged neatly within it, thus saving you the chore of having to do the job by hand.

Snapshot Once the icons in a window are arranged as you want them, selecting Snapshot with the window selected, tells the Amiga to save that layout. Whenever the window is opened in future the icons will be presented exactly as you snapped them.

Last Error: Occasionally the Amiga generates error messages telling you that something is wrong. If you didn't notice a message that was flashed up on the screen selecting Last Error will re-display it.

Redraw If a window has been corrupted for some reason, Redraw attempts to restore it to its former condition.

Version Selecting this option displays the version numbers of both your Kickstart and Workbench.

2.0 MENUS

Workbench 2.0 features many enhancements over previous versions, and its four menus are the first to reflect these improvements.

Backdrop Unlike its predecessors, Workbench 2.0 opens a window to display all icons including device icons. By selecting Backdrop the window can be switched off so that these icons appear on a standard backdrop.

Execute Command: This opens up a small requester into which you can type CLI commands. This saves you time because previously you would have had to open a Shell or CLI window to do this.

Redraw All Similar to the 1.3 Redraw command, Redraw All simply attempts to refresh any corrupted areas of the screen.

Update All Sometimes information in one window is not displayed because another window has taken precedence. Selecting Update All causes all windows to be redrawn, and all information in them to be updated.

Last Message Whereas the Last Error option of Workbench 1.3 only displayed ▸

the previous Error Message Last Message will re display any message which you may have just missed

About This is exactly the same as the 1 3 Info command as it provides you with information about the Kickstart and Workbench Versions that are currently in use

Quit This much needed option allows the user to shut down the Workbench freeing any memory that it may have been using This option should be used with care because unless a Shell window is left open you can t return to Workbench once you ve selected this

Unsurprisingly the Window menu contains options relating to windows and items within them

New Drawer This creates an empty directory in the current window

Open Parent When I talked earlier about directories and sub-directories I mentioned that a sub-directory is considered to be the child of its host directory Because you can close a main directory window whilst its child is still open Open Parent will re-open it.

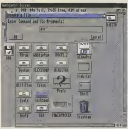
Close This shuts down the active window and performs the same function as clicking on a window s Close gadget

Update. When the contents of a window have been altered as a result of a CLI Shell or other operation the updated contents would not usually be displayed until that window is closed and re-opened Update simply performs this function for you

Select Contents Occasionally you may wish to select all of the icons within a window Although you can achieve this via a number of extended selection methods the easiest way is simply to choose the Select Contents option

Clean Up Again this option performs the same basic function as its 1 3 counterpart but it s been made more flexible in the way that it works Whereas under 1 3 Workbench the Clean Up option only worked as soon as a window had been opened, it can now be used any time to tidy up the icons within the active window

Show Because files don t necessarily have to have an icon there may be a number of hidden files within any directory Select show and all false icons will be temporarily created for files which don t have one


Workbench Screen
DH0
PDraw
WBStartup
MAXV2.2
XCopyPro
System
FLEXIDUMP
DIRECTOR
Disk-Cat
Utilities
Icons
Prefs
Shell
Tools
railroad
Empty
SID
POWERPACKER
Trashcan
PROJECTS
OK
Cancel

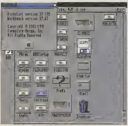
DH0 84% full, 7965K free, 42M in use

Execute a File

Enter Command and its Arguments:

dir

With the Execute Command CLI commands can be used without having to open a Shell or CLI window


free, 42M in use
SCRIBBLE!
CLIMATE
PROJECTS
XCOPY
XCopyPro
PDraw
WBStartup
MAXV2.2
DH0
System
FLEXIDUMP
DIRECTOR
Disk-Cat
Utilities
Icons
Prefs
Shell
Tools
railroad
POWERPACKER
Empty
SID
Trashcan
OK

Kickstart version 37 175
Workbench version 37.67

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Commodore Amiga, Inc
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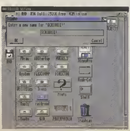
About simply gives information on the versions of Workbench and Kickstart that are currently in use Most programs which include this option also give details about the software s author and copyright holder


Workbench Screen
Rename
DH0
PDraw
WBStartup
MAXV2.2
XCopyPro
System
FLEXIDUMP
DIRECTOR
Disk-Cat
Utilities
Icons
Prefs
Shell
Tools
railroad
Empty
SID
POWERPACKER
Trashcan
OK
Cancel

DH0 85% full 793K free 42M in use

Enter a new name for 'SCRIBBLE!'

SCRIBBLE!

View By Although the Workbench defaults to show all files by icon you may prefer to see them displayed in words The View By option has four sub-choices Icon Name Date and Size If you choose one of the latter three all files will be displayed as text but sorted according to the choice you made For instance View By Date will generate a chronological list of files with the oldest at the top and the most recently created at the bottom

The third menu called Icons is roughly equivalent to the Workbench menu of 1 3 systems in that it contains options for manipulating individual icons and files

Open Copy Rename Information These four options work in the same way as their 1 3 counterparts so read the Workbench menu section for more details

Snapshot This saves the position of the selected icon or icons to disk so that whenever its window is opened it s in the same position

Unsnapshot This allows you to over ride the position of an icon If the icon is not snapshotted again the Workbench will position it where it wants when the window is opened in future

Leave Out Using the Leave Out option an icon can be moved outside its parent window and placed in the Workbench window Although its associated files will remain where they were the icon will be permanently displayed on the Workbench window unless they are

Put away This restores an icon to its original location after it s been moved using the Leave Out option

Delete: Allows you to erase files from the disk memory etc

The Tools menu is unique in that it s the only one that you can add items to For programs which support this feature it means that they can be loaded via this menu option without having to open a window and double click on their icon

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STARTING OUT

Controlling your Amiga can be wonderful – but before you can learn to program, you'll need to know how your computer starts up. . .

Regular readers will recall that we showed you how to write your own startup-sequences back in the June 91 issue of CU. With so many new readers joining us we thought that we ought to go right back to basics and explain how the Workbench startup-sequences work.

A startup-sequence is a small program present on many disks, which the Amiga looks at to receive further instructions on how to configure the computer and load the contents of the disk.

HEART OF THE MATTER

The startup-sequence can be found in the S directory of a disk and generally only contains the minimum number of commands required to run the programs on it. The Workbench startup-sequence is something of a showpiece because it contains many commands which are not needed for normal Workbench operations. This makes it an ideal place to learn about the subtleties of startup-sequences.

Let's begin by taking a look at the startup-sequence that comes with Workbench 1.3.2. The line numbers (1-18) are for reference only.

WORKBENCH 1.3.2 STARTUP-SEQUENCE

```
 1 C:SetPatch >NIL:
 2 Addbuffers df0: 10
 3 cd c:
 4 echo "Amiga Workbench
   Disk (UK)  Release 1.3.2
   version 34.28"
 5 Sys:System/FastMemFirst
 6 BindDrivers
 7 SetClock load
 8 FF >NIL: -0
 9 resident CLI L:Shell-Seg
   SYSTEM pure add
10 resident c:execute pure
11 mount newcon:
12 failat 11
13 run execute s:StartupII
14 wait >NIL: 5 mins
15 SYS:System/SetMap gb
16 path ram: c: sys:utilities
   sys:system s: sys:prefs add
17 LoadWB delay
18 endcli >NIL:
```

WHAT IT ALL MEANS

Now I'll explain what everything means in a bit more detail.

1. C:SetPatch >NIL:

Because it's a disk-based machine the Amiga requires a Disk Operating System (DOS) to allow users to control the way that information is transferred to and from the disks. Unfortunately the DOS of both 1.2 and 1.3 Amigas had a number of minor errors in it. Because the DOS is permanently stored in Read Only Memory chips (ROMS) users can't easily replace them for corrected versions.

A solution has been created in the form of a systems patch. This patch essentially attaches itself to the Amiga ROMS and substitutes the faulty programs with corrected versions. The Setpatch command is used to activate the systems patch so that everything works properly.

2. Addbuffers df0: 10

When you need to find out what's on a disk you call up a contents directory. This directory is loaded from the disk and shows you all programs at a specified level. The Addbuffers command is used to create memory buffers so that when a directory is requested that information can be stored temporarily. If the user then requests the same directory a little while later the Amiga doesn't have to waste time reading that information from the disk because it's already stored in memory.

Each buffer is 512 bytes (half a kilobyte (K)) long. Although the Workbench startup-sequence sets up ten buffers, if you have the memory, 20-25 buffers will make your Amiga far more efficient.

You should note that each disk

MESSAGES
WELCOME to the NEW game
FUN,FUN,FUN
PLAY IT NOW
A GAME TO FIRE YOU UP
PLAY
HELLO, MY NAME IS
PLAYABLE DEMO- PLAYING DEMO
MOVING - BLASTING
how do you do
i n t r

HOW TO LOAD THE STARTUP-SEQUENCE

Insert your Workbench disk and when it's loaded double click first on the Workbench icon, then on the shell icon. In the Shell window type Ed s/startup-sequence. This will load the file from disk into a utility called Ed, which allows you to view or change the file.

When you've finished looking at the file press escape then either type Q <return> to quit, or sa <return> to save then quit.

Warning! Don't save on the original Workbench disk. If you want to experiment with the startup-sequence, copy the disk first then use that.

drive must have buffers assigned specifically for it and the Workbench only sets up buffers for the internal drive (df0). If you want to create buffers for a second drive you'll have to use a command something like Addbuffers df1 25

3. cd:c

Although you can store a lot of information on a disk, that information doesn't all have to be stored in the same place. To make retrieval of information easier, files which are related can be grouped and placed into 'drawers' called directories.

Imagine that you're storing letters on a disk; you may have 200 letters covering business and personal correspondance. The business letters may also be sub-divided into private and job-related business.

If your letters are all stored in the same place and you wanted to retrieve a specific one, you'd have to wade through dozens of unrelated items before you eventually found your choice.

By separating the letters so that business and personal letters are stored in separate drawers, you may halve the amount of searching required to find your file. Directories can even be nested within each other (like those Russian dolls). When one directory is placed within another it's called a sub-directory.

If you want to load a particular file you must tell the computer which directories it's in.

When the startup-sequence is run, the computer must load each command from disk before it knows what to do. Most of the commands are stored in a directory called C, so rather than specify this directory each time a command is called, the CD command (short for Current Directory) tells the computer to look in the C directory for all future commands.

4. echo "Amiga Workbench Disk (UK). Release 1.3.2 version 34.28"

The echo command simply tells the Amiga to duplicate everything within the quotation marks on the screen. In this case it simply prints the Workbench version number on the screen whilst the rest of the disk loads.

5. Sys:System/FastMemFirst

The Amiga's memory is split into two main parts: fast Ram and chip Ram. Unfortunately, the custom chips (the blitter etc) cannot operate directly upon data stored in fast ram. However, when programs are running they sometimes request memory of an unspecified type for certain operations. FastMemFirst ensures that on these occasions, fast Ram is allocated, thus saving valuable chip ram for custom chip operations.

6. BindDrivers

When additional items of hardware (hard drives, etc) are used, additional drivers are sometimes required so that the computer can communicate with them properly. These drivers (which are stored in the Expansions directory of a disk) need to be activated and linked to the Amiga's system. This is what the BindDrivers command does.

7. SetClock load

The Amiga uses an internal system clock to keep track of the time and date. This clock resets itself every time the computer is turned off.

Some memory expansions are fitted with a battery backed clock which does not reset when the computer's power is turned off.

Although this clock is separate from the Amiga's system clock, the system clock can be made to synchronise itself with the battery-backed one using the Setclock command.

8. FF >NIL: -0

The Amiga's default speed for on-screen text printing is relatively slow. An Amiga programmer called Charlie Heath wrote a short program called Fast Fonts which speeded it up by about 20%, and as a result Commodore included it with all their 1.3 Amigas. This command simply activates the program.

9. resident CLI L:Shell-Seg SYSTEM pure add

The Command Line Interface (CLI) is an interpreter which allows users to issue typed commands to the Amiga. Shell is a more sophisticated version of CLI. This command loads the CLI into memory and transforms it into Shell by linking the upgraded Shell-seg.

10. resident c:execute pure

This command simply loads the execute command and makes it memory resident. This means that the command won't have to be loaded each time it's used.

11. mount newcon:

Similar to the way that the BindDrivers command was used to activate hardware drivers, mount Newcon: is used to activate the Shell related Newcon: device. Once activated, this merely provides the user with additional Shell editing facilities.

12. failat 11

When Amiga programs are running an error number is generated if a problem is encountered. The more severe the error, the higher the number.

Unless specified, all errors will halt any further execution of the program. By raising the failure number from 10 to 11, minor errors encountered during the StartupII script (executed in the next line) are ignored and the program is allowed to continue.

13. run execute s:StartupII

This simply runs a second set of commands stored as a file called StartupII.

14. wait >NIL: 5 mins

Because the Amiga is capable of multi tasking (doing two things at once) it would attempt to run StartupII (in line 13) and the remainder of the main startup sequence at once.

Whilst this is fine in theory, in practice it often results in two programs trying to read from the Workbench disk simultaneously, thus causing the horrible grinding noise that many people are familiar with.

This line tells the Amiga to suspend execution of the remaining startup-sequence commands until StartupII has been completed. Unfortunately it doesn't work very well and the disk drive still makes a noise!

15. SYS:System/SetMap gb

When you press a key the computer doesn't think to itself 'Ah, he's just pressed the letter A' or 'ah he's just typed hello'. Each keypress generates a number which is mapped against an internal list which tells the Amiga what you meant when you struck a particular key.

Being an American-made computer, the Amiga defaults to use an American translation list. This is fine in most cases, but certain symbols such as # and £ are in different positions on a British keyboard.

The SetMap command allows the user to specify which language he wants the keyboard configured to.

16. path ram: c: sys:utilities sys:system s: sys:prefs add

If you recall what I said about directories and path names when I was describing the CD c: command in line 3, you may already have an idea what purpose this line serves. It simply tells the Amiga where to look when looking for files in particular directories – prefs for example.

17. LoadWB delay

LoadWB simply loads the Workbench so that you can use the icon based loading system. The delay command tells the computer to wait for a few moments before doing so. This is yet another attempt to reduce disk grinding as the computer would otherwise be performing two disk operations at once (finishing loading the LoadWB command and loading the Workbench itself).

18. endcli >NIL:

This command merely tells the CLI that it's no longer needed and that it should close itself down and go away. Until this command is issued the Workbench screen is not visible because it's behind the CLI window.

IN CONCLUSION

You've probably noticed that a number of commands are suffixed by the characters >NIL. Just so that you won't be left wondering what that means, many commands print messages which tells you more about them, or confirm that they are being successfully executed. As this text output is not really required, it is sent to a special location called NIL.

Well, that's all there is to the main Workbench 1.3.2 startup-sequence. Workbench 2.0 features a number of differences which we'll discuss in detail on another occasion.

You might as well think of NIL as a limbo where unwanted rubbish is dumped, because that's the purpose it serves in the startup-sequence.

For users who know how to use the CLI, you can prove this by typing List df0. This will give you a normal listing of the files on the disk in the internal drive. Now type List df0 >NIL

The computer still reads the disk but nothing has been printed on the screen. The information has been sent to NIL, never to be seen again!

Hopefully you've found this feature informative. If you have any further questions, don't forget that you can always send them in to us at:

Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU

You've bought an Amiga and you're about to enter the bustling the world of computer

GAME, SET AN

games. But where do you start? CU guides you through the hundreds of game-styles and packages at your fingertips...

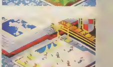
As far as computer games are concerned the Amiga is probably the best 16 bit machine there is Every aspect of gaming is catered tor from the deepest dungeons to the newest film and arcade licences and – more importantly – they are all easily available With the machine now out-selling its many rivals more and more companies are producing games for it, and it s future is looking very rosy indeed – in fact out of all the machines currently on the market only the Amiga stands a chance of keeping up with the latest console boom And the reason for this lies in the machine s flexibility and technical capabilities

Maxis *Sim City* let you take charge of an entire city and plan its development over the years This one s for council planners and game enthusiasts alike.

(take a look at *Chase HQ* and *Alien Storm* tor example) but a handful that are currently in development are looking very impressive indeed

The same goes tor film licences Such is the versatility of the computer game format that licences as weird as *The Addams Family* to *Batman* can be turned into playable computer games Nine times out of ten these are made up of a series of sub-games comprising several different game-styles but occasionally, someone will really push the boat out with a stunning advance in game ideas You can guarantee that if a blockbuster film is heading your way, then the Amiga game won't be far behind in the last year we've seen *Total Recall Terminator II Robin Hood, Hudson Hawk* and *Bill And Ted's Excellent Adventure* and in the case of *Total Hudson* and *Bill And Ted*, the games were arguably more enjoyable than their celluloid counterparts!

Below: *Populous* represented the beginning of a whole new genre of game – the God Sim You control the lives and destiny of a chosen land as you fought for supremacy against other God-like adversaries Essential stuff!

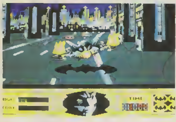


Racing games have always been popular on the home computer and the Amiga sports two of the best, namely Gremlin s *Lotus 2* and Virgin s *Off-road Racer*

Licenced To Thrill?

Although it isn t as technically advanced as Sega s fast moving coin-ops or Taito s huge sprite extravaganzas the Amiga can handle such conversions fairly well Obviously they aren't going to be perfect copies of the machine, but all the necessary gameplay will be there as will all the features that made you enjoy the machines so much Classic Amiga conversions are two-a penny and the likes of *Rainbow Islands*, *Super Monaco GP* and *Golden Axe* display the machine s ability to handle all manner of coin-op styles – for considerably less than the money you d pump into their arcade parents, too Granted, not all conversions can be deemed classic

D MATCH



Na-na-na-na-na-na-na-na, *Batman*. Ocean's famous license proved an instant hit as well as proving that licensed games could be original and fun.

Variety Is The Spice Of Life...

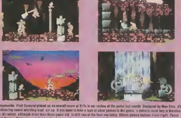
If you like your games a little more cerebral or maybe prefer the simplicity of a mega-death shoot 'em up, then once again you're well-catered for. All the major adventures can be found on the Amiga, with the classic Infocom series available for a mere seven quid a title courtesy of Mastertronic! In addition, the Amiga was also responsible for the rapid growth of the arcade/adventure and the machine now sports more of this sub-genre than any other machine. In addition, as coders start to get to grips with the machine's capabilities, even more in-depth gameplay and better graphics are squeezed out of it. For instance, whereas FTL's *Dungeon Master* was long regarded as THE RPG by ST owners, along comes SSI and U.S. Gold with *Eye Of The Beholder*, an RPG-cum arcade/adventure which blew FTL's game into a cocked hat. Or perhaps you'd like Disney-style cartoon-quality graphics with your RPG? Try Core's *Heimdall*, it'll blow you away.

Categorising the Amiga's thousands of games is a near impossible task and the machine has more game styles than you can shake a very large stick at. For instance, if you are out to buy a shoot 'em up, you are going to have to choose from a selection of hundreds. Vertically scrolling, Sir? How about *SWIV* or *Xenon II*? Or maybe horizontally scrolling, where you can pick from *Armalyte*, *R-Types I* and *II*, *Denaris*, *Silkworm* and *Z-Out*? And that's without even mentioning arcade/adventure shoot 'em ups like the two *Turrican* games and *Alien Breed*, or 'point of view' blasters such as *Operation Thunderbolt*, *Line Of Fire* and *Beast Busters*.

RPG and Adventure games offer a welcome alternative to the shoot 'em up variety and, due to their complexity, can last for many hours.

Accolade's spooky Elvira game was true to the movie and also included more than its share of blood and gore.

GAME, SET AND MATCH



Imageworks *First Samurai* picked up an overall score of 91% in our review of the game last month Designed by Mev Dinc it's a blistering sword-wielding beat em up If you want to take a look at other games in the genre a definite must buy is the classic *IK+* which although more than three years old is still one of the best available Others games include *Final Fight* *Panza Kick Boxing* *Pit Fighter* and *Golden Axe* but not all are to a high standard The only way to make sure a game is up to scratch is to read the reviews in magazines like CU Amiga or find a good local computer shop which will let you try before you buy At £25 a throw games aren't particularly cheap so it pays to shop around for the best prices and read as many reviews as possible

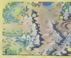
Cheap'N'Cheerful

The thing is no matter how you like your games, the Amiga can more than cater for it – it even mixes in dozens of game styles if you so wish And although twenty six odd quid may seem a little excessive for the latest release then the major companies like U S Gold Ocean and Domark have all produced spin-off budget labels where their past hits can be found for under a tenner Within this thriving budget market there are dozens of real gems to be found Take the aforementioned *Batman* licence, for instance this pioneered decent licenced product with its top-notch mix of driving and platform sequences and for a meagre £7 99 represents an absolute steal In addition, if you re a fan of older coin-ops such as *Bionic Commando*, *Outrun*, or *Bubble Bobble* these too can be found at a budget price

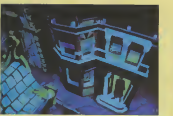
This isn't to say that the budget arena is predominently made up of re-releases, though Codemasters veterans of the cut price game have made a bundle from their *Dizzy* series which are platform-based arcade/adventures starring a little egg like character and Ocean have just tentatively released their first original budget game with U S Gold about to do the same. In addition if you have upgraded from an 8 bit machine then there are also stories circulating that several companies are at present updating their back catalogue games for the Amiga so you needn t miss the likes of *Beach Head* *Combat School* or *Gryzor* after all And bearing in mind that the Amiga has almost identical specifications to these aging coin-ops there s no reason why these conversions shouldn't be identical when they arrive

PD File

Furthermore if your pocket can't stretch to budget games either the Amiga has one of the busiest Public Domain scenes of any machine As well as the many impressive demos and utilities the scene affords the odd gem of a game can be found too Small games knocked up using Domark s *3D Construction Kit* or Palace s *Shoot 'em Up Construction Kit* are regularly released but the PD scene is also frequented by talented new programmers

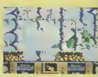


In the last year the budget scene has really taken off If you can't afford a really hot game now chances are that in 12 months time it ll be available at half the price.



In a similar vein to *Operation Stealth Cruise for a Corpse* was a great adventure with a fascinating Whodunnit theme set aboard a luxury cruise-liner After the millionaire owner is murdered it's up to you to solve the dastardly crime and save the day But who could have committed such a dastardly crime? As you would expect there are more than a few dodgy characters on board the ship and tracking down the killer is far from simple.

Platform games are a popular choice with the average punter Classics include coin-op conversion, *Rodland*, the Bitmaps *Magic Pockets* and the superlative *Rainbow Islands*, the blistering sequel to *Bubble Bobble* More than any other type of game platform games usually involve a collection of cute characters which prompted the Sales Curve to sub-head their *Rodland's* conversion with the immortal line So cute, it'll make you puke



More than thirty full-price Amiga games are released each month Their quality varies from the mundane to the brilliant With more and more games being developed on the Amiga, coders are becoming more familiar with the machine's capabilities and the best games are definitely yet to come.

who want to test their wares before they start professionally Among the classics we've seen are an incomparable version of that golden oldie *Missile Command* several superior shoot 'em ups – of which the excellent *Tank* is the best – and a rather spiffy platform affair by the name of *Drip* These are all available for roughly a pound and the price of a blank disk and can represent excellent value for their minimal cost

Buy, Buy

So where can these many games be found then? Well that's the beauty of it Everywhere! All the major chains including Boots WH Smiths and Woolies stock Amiga games and the small computer shops are still alive and kicking In addition companies like Virgin are confident enough in the future of the computer boom to introduce a chain of shops dedicated to computer games and both London and Southampton now house these Games Centres In terms of choice these larger shops are probably the best as they usually contain virtually every new release – and that's some thirty odd games a month However you may find that some of the smaller run specialist clubs offer a better service than some of the larger shops as well as providing some hefty discounts on full-price games

Another alternative is ordering from the mail order ads you may see in this and other magazines These offer full price games at drastically-reduced prices and it is possible to save up to eight quid on a new release However there are a few fly-by-night companies out there so always try to find out a little on the companies before sending off any cheques There is the MOPS (Mail Order Protection Scheme) though, which is there to keep an eye on any rogue companies and will prevent mags from taking ads from unreputable companies who have a reputation for messing punters around These Mail Order companies are also useful for finding more obscure games that you may have been after for ages and can try to hunt down those elusive copies for you

So there you have it the exciting world of Amiga gaming As with all those expensive hampers you see on TV there's something for everyone and unlike the Hamper the Amiga will keep you going for a good few years yet.

Heimdall combined traditional RPG gameplay with some stunning cartoon-quality graphics.

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GLOSSARY

add-on
Any external device connected to your Amiga such as a printer joystick or modem See also peripheral

AmigaDOS
The Amiga Disk Operating System

animation
Sequence of pictures that when shown in rapid succession creates the illusion of a moving image Each picture is referred to as a frame of animation

anti-aliasing
Process of smoothing out the rugged edges of computer-generated graphics by softening the colour and luminance intensities of the pixels

ASCII
American Standard Code for Information Interchange designed to achieve compatibility between data devices

baud rate
Rate at which information is transferred through a serial port

bit
Smallest unit of information that a computer can hold (0 or 1)

bitmap
Series of bits that represent a graphic image

blitter
Part of the internal Amiga hardware used to copy and transfer data at extremely fast speeds

byte
Unit of memory consisting of eight bits

CD-ROM
Device that stores a massive amount of data (in excess of 500 megabytes) on special compact discs

CDTV
Commodore Dynamic Total Vision Amiga with built-in CD-ROM drive redesigned to look like an ordinary CD-player See also multimedia

CLI
Command Line Interface used to communicate directly with AmigaDOS without employing icons

copper
Display-synchronised coprocessor that resides on one of the Amiga custom chips and directs the graphics display

CPU
Central Processing Unit Commodore uses the Motorola 68000-family of microprocessors in the Amiga

data
Any form of information stored and processed by a computer such as text, images and sound

disk
Medium for storing and retrieving data

DMA
Direct Memory Access

exec
Low-level primitives that support AmigaDOS

file
Any collection of data stored on a disk

floppy disk
Disk made of plastic that stores computer data on a magnetic surface

font
Collection of letters numbers and other typographical symbols

frame grabbing
Technique to capture video images and convert them into computer graphics Also called a video digitiser

genlock
Add-on device used to combine the graphical output of your Amiga with any video source such as a VCR or video camera

graphics tablet
Peripheral device for drawing images

halfbrite
Amiga display mode that can handle 64 colours on screen at the same time

HAM
Hold And Modify Graphics mode on the Amiga that can display 4096 colours on-screen

hard disk drive
Stores very large amounts of data and operates a lot faster than a floppy disk drive

icon
An image representing an object concept message or possible action

in-betweening
Transformation between two key frames in an animation sequence

interface
The point of communication between you and a computer

interlace
Display mode which doubles number of vertical scan lines

kilobyte
Unit of memory consisting of 1024 bytes Usually abbreviated to K

light pen
Add-on device shaped like a pen that you point at the screen to control functions during special application programs

light source
Point from which a scene is illuminated

megabyte
Unit of memory equal to 1024 kilobytes (K) or 1 048 576 bytes Usually abbreviated to MB

memory
Hardware component of a computer that can store data for later retrieval

modelling
Process of creating a three-dimensional computer graphic object

modem
Device that links your Amiga to other computers via telephone lines Short for modulator/demodulator

mouse
Small device that controls a pointer on the screen

MS-DOS
Microsoft Disk Operating System used by IBM PC-compatible computers

multimedia
Combination of text images and sound in a single program

multitasking
Allows multiple programs to be 'simultaneously' run

NTSC
National Television Systems Committee The 525-line composite video system used in the USA

PAL
Phase Alternating Line The 625 line composite video system used in the UK

PD
Programs put in the Public Domain by their authors Free software! See also shareware

peripheral
Piece of hardware – such as a monitor disk drive printer or modem – connected to and controlled by your Amiga. See also add on

pixel
Short for picture element A location in memory that corresponds to a point on the screen

pointer
An arrow or other symbol on the screen under your control via mouse keyboard or joystick You use the pointer to choose commands or draw in graphics programs

port
Socket on a computer that you can use to connect peripherals

program
Set of instructions for the computer telling it what to do Computer programs are collectively referred to as software

RAM
Random Access Memory

ray-traced
Technique which mimics the way rays of light bounce off graphical objects

rendering
Process where each graphical object in a scene is shaded and lit making it look more realistic

resolution
Number of pixels that can be displayed

ROM
Read Only Memory

RGB monitor
A monitor that interprets video signals for Red Green and Blue to create any colour

scrolling
Moving the display in a vertical or horizontal direction

SCSI
Small Computer System Interface

shareware
Similar to PD software except the authors expect some sort of payment if you decide to use their programs

sprite
Graphic object which is easily moved and manipulated Perfect for game applications

TV modulator
Device used to connect a television set to'your Amiga

user group
Club whose members exchange tips and information

virus
Malevolent software that damages files stored on floppy disk or hard disk Virus-busting programs are available from dealers and user groups

workbench
Allows you to manipulate some of the facilities of the Amiga

PHOENIX

RAM expansions made for the older A500 will not work with the new A500 Plus if they are populated to more than 512k. Phoenix have developed a range of RAM expansion units specifically for the new A500 Plus.

WHY DO YOU NEED PHOENIX RAM EXPANSIONS?

The A500 Plus can only be expanded to 2 Mb of chip RAM using the trap door expansion port.

◆

Chip Ram is required to unleash the full graphics capabilities of the Amiga 500 Plus

◆

The A500 Plus can only use specific RAM expansion modules that will do this such as Phoenix.

◆

Phoenix Ram expansion modules are built to the highest possible standards in the U.K.

◆

Each unit is individually inspected and tested before release.

◆

Phoenix 1 Mb RAM modules come in either 512K, 1Mb or unpopulated configurations

◆

Phoenix product is backed full 2 year replacement [illegible]

2 YEARS GUARANTEE

EXPAND

your AMIGA A500 *Plus*

with the

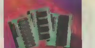
A500 *Plus* 1Mb RAM modules

The Phoenix 1mb RAM expansion is available either unpopulated, populated to 512K or fully populated to 1Mb All boards use industry standard 256 by 4 DRAMs The Phoenix Ram will fit simply into the trap door expansion port without any modification and **Will Not** invalidate your warranty

Unpopulated only £16.99

512K populated only £39.99

1Mb fully populated only £49.99



Kickstart ROM1.3/2.04 sharer

Because some older Games and Business software will not run on the new Kickstart 2 04 ROM Phoenix have designed a sharer for both ROM chip sets

Switchable between 1 3 and 2 04 you can get all the benefits of the latest A500 *Plus* without the drawback of losing some of your favourite software

Kickstart ROM1.3/2.04 sharer only £24.99

◆

Kickstart ROM 1.3 chip only £29.99

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